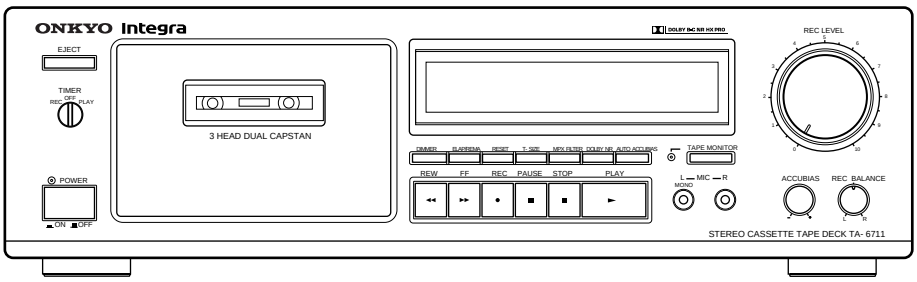
ONKYO

TA-6711

Ster eo Cassette Tape Deck



Instruction Manual

CONTENTS

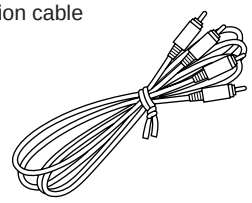
Thank you for your purchase of the Onkyo TA-6711 cassette tape deck. Please read this manual thoroughly before making connections and turning power on. Follow these instructions to obtain optimum performance and maximum listening enjoyment from your new TA-6711. Please retain this manual for future reference.

Features

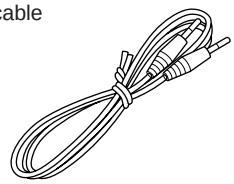
- **Fullauto Accubias Control System (Bias & Level) & Manualbias Control System**
- **Re-inforced Cassette Holder**
- **3-Motor, 3-Head, Dual capstan Silent Deck Mechanism**
- **Dolby HX Pro, B/C noise reduction**
- **PC-OCC Wire Head Windings**
  Pure, single-crystal, oxygen-free copper head windings prevent signal loss for faithful high-frequency recording.
- **Full-logic controls**
  Quiet and fast, they let you switch directly between any two transport modes without having to press the stop button.
- **One-touch CD synchronized recording**
- **RI System compatible**
  This means you can contorl virtually all of the casette deck's major functions with other ONKYO remote controls.

Supplied accessories

2 Audio connection cable



1 Remote control cable



Declaration of Conformity

We, ONKYO EUROPE ELECTRONICS GMBH
INDUSTRIESTRASSE 18/20
82110 GERMERING,
GERMANY

declare in own responsibility, that the ONKYO product described in this instruction manual is in compliance with the corresponding technical standards such as EN55013,EN55020,EN60555-2, EN60065

GERMERING,GERMANY

K. KOBAYASHI

ONKYO EUROPE ELECTRONICS GMBH

FOR CANADIAN MODEL:(POUR LE MODELE CANADIEN:)

• For models having a power cord with a polarized plug

CAUTION:

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.

• Sur les modèles don't la fiche est polarisée

ATTENTION:

POUR EVITER LES CHOCS ELECTRIQUES, INTRODUIRE LA LAME LA PLUS LARGE DE LA FICHE DANS LA BORNE CORRESPONDANTE DE LA PRISE ET POUSSER JUSQ'AU FOND.

ATTENTION FOR BRITISH MODEL:

Replacement and mounting of an AC plug on the power supply cord of this unit should be performed only by qualified service personnel.

IMPORTANT: The wires in the mains lead are coloured in accordance with the following code:

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this unit may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.

The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

This apparatus complies with the requirements of EC directive 87/308/EEC.

WARNING

"TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE."

CAUTION

"TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL."

- The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
- The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Important Safeguards

1. **Read Instructions** — All the safety and operating instructions should be read before the appliance is operated.
2. **Retain Instructions** — The safety and operating instructions should be retained for future reference.
3. **Heed Warnings** — All warnings on the appliance and in the operating instructions should be adhered to.
4. **Follow Instructions** — All operating and use instructions should be followed.
5. **Water and Moisture** — The appliance should not be used near water — for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. **Carts and Stands** — The appliance should be used only with a cart or stand that is recommended by the manufacturer.

6A. — An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

PORTABLE CART WARNING

S3125A

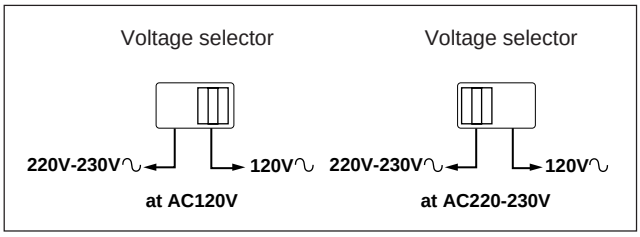
7. **Wall or Ceiling Mounting** — The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. **Ventilation** — The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or if placed in a built-in installation, such as a book case or cabinet that may impede the flow of air through the ventilation openings, there should be free space of at least 20 cm (8 in.) and open up behind the appliance.
9. **Heat** — The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. **Power Sources** — The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. **Polarization** — If the appliace is provided with a polarized plug having one blade wider than the other, please read the following information: The polarization of the plug is a safety feature. The polarized plug will only fit the outlet one way. If the plug does not fit fully into the outlet, try reversing it. If there is still trouble, the user should seek the services of a qualified electrician. Under no circumstances should the user attempt to defeat the polarization of the plug.
12. **Power-Cord Protection** — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to the cords at plugs, convenience receptacles, and the point where they exit from the appliance.
13. **Cleaning** — The appliance should be cleaned only as recommended by the manufacturer.
14. **Nonuse Periods** — The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
15. **Object and Liquid Entry** — Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
16. **Damage Requiring Service** — The appliance should be serviced by qualified service personnel when:
    A. The power-supply cord or the plug has been damaged; or
    B. Objects have fallen or liquid has been spilled into the appliance; or
    C. The appliance has been exposed to rain; or
    D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
    E. The appliance has been dropped or the enclosure damaged.
17. **Servicing** — The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.

Precautions

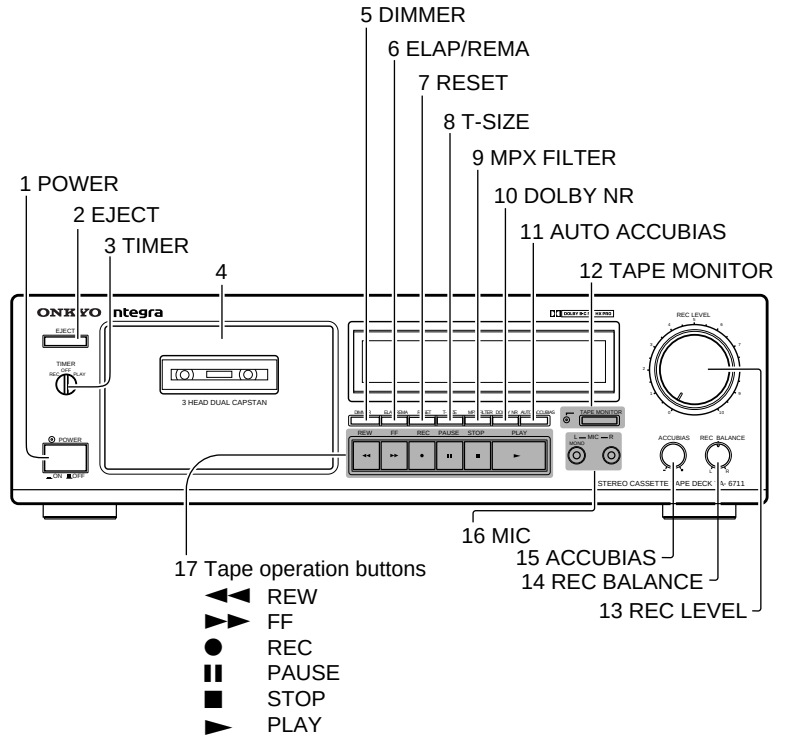
1. **Warranty Card**
   The serial number is written on the rear panel of this unit. (Write the serial number and model number onto your warranty card and keep it in a safe place.)
2. **Recording Copyright**
   Recording of copyrighted material for other than personal use is illegal without permission of the copyright holder.
3. **Deck Location**
   - Do not use or leave in direct sunlight or in other places subject to high temperature and humidity. The unit should also not be left in potentially hot places such as near heating appliances. Excessive heat and moisture can lead to internal damage and serious malfunctions (this also applies to cassette tapes). The recommended ambient temperature range is 5°C to 35°C.
   - Avoid damp and dusty places and locations prone to vibrations.
   - Be extremely careful with the recording/playback heads. Clean and demagnetize them regularly, but under no circumstances should magnets or other metals be used anywhere near the heads.
   - This unit is extremely sensitive to magnetic fields, so do not use near large speakers or other devices which generate magnetic fields.
   - Hum may even be induced by magnetic flux leakage from the power transformer in certain amplifiers. Therefore, this unit should also be kept clear of the amplifier.
   - Do not remove the cabinet case. If any of the internal parts are handled, there is a considerable danger of electric shock.
4. **Cassettes to Avoid:**
   - Cassettes with poorly formed cases that rattle during rewind and fast forward.
   - Low cost cassettes with no guide roller or pressure pad spring should never be used for stereo.
   - C-120 cassettes — because the tape and the coating are extremely thin, distortion levels are high. Also, even a slight stretching of the tape will make it susceptible to being caught up in the pinch roller and capstan.
   - Endless tapes, if used for a long period of time, can overheat.
5. **Power**
   WARNING
   BEFORE PLUGGING IN THE UNIT FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.
   - Some models are designed for use only with the power supply voltage of the region where they are sold.

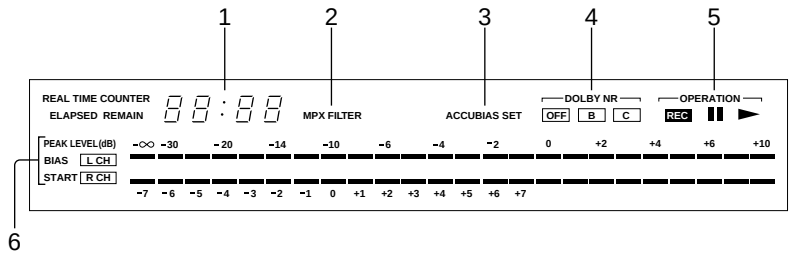
European models:	AC 230V, 50Hz
U.S.A. and Canadian models:	AC 120V, 60Hz
Worldwide models:	AC 120 and 220-230V switchable, 50/60Hz

   - Voltage Selector (Rear Panel)
     Worldwide models are equipped with a voltage selector to conform with local power supplies. Be sure to set this switch to match the power supply in your area before plugging in the unit. Models without a voltage selector can only be used in areas where the power supply voltage is the same as that of the unit.



Control Positions and Names





If there is a protective film on the surface of the display which makes it difficult to read, remove it.
For more information about a button or control, turn to the page number listed in square brackets [ ].

Front Panel

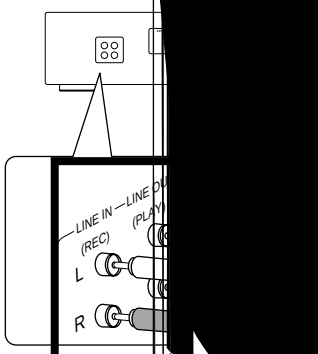
1. **Power Switch and indicator [5]**
2. **Eject Button**
3. **Timer Switch [13]**
4. **Cassette Holder**
5. **Dimmer Button [7]**
6. **Elapsed/Remaining Button [8]**
7. **Reset Button [8]**
8. **Tape Size Selector Button [8]**
9. **Multiplex Filter Button [12]**
10. **DOLBY NR Button [6, 10, 12]**
11. **Auto Accubias Button [10, 11]**
12. **Tape Monitor Button and Indicator [13]**
13. **Recording Level Control Knob [10]**
14. **Rec Balance Control Knob [10]**
15. **Accubias Control Knob [11]**
16. **Microphone Jacks [13]**
17. **Tape Operation Buttons**
    - ◄◄ **: Rewind Button [7]**
    - ►► **: Fast Forward Button [7]**
    - ● **: Recording Button [10]**
    - ▮▮ **: Pause Button [7]**
    - ■ **: Stop Button [7]**
    - ► **: Play Button [6]**

Display

1. **Real Time Counter/Tape Size Indicator**
2. **Multiplex Filter Indicator**
3. **Accubias Set Indicator**
4. **Dolby NR Indicators**
   - OFF **: OFF**
   - B **: Dolby B NR**
   - C **: Dolby C NR**
5. **Tape Operation Indicators**
   - REC **: Recording Indicator**
   - ▮▮ **: Pause Indicator**
   - ► **: Play Indicator**
6. **Peak Level/Recording Bias Indicators**

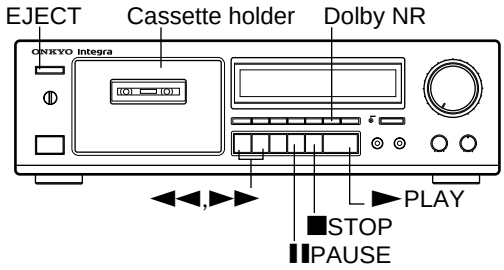
System [illegible]ections

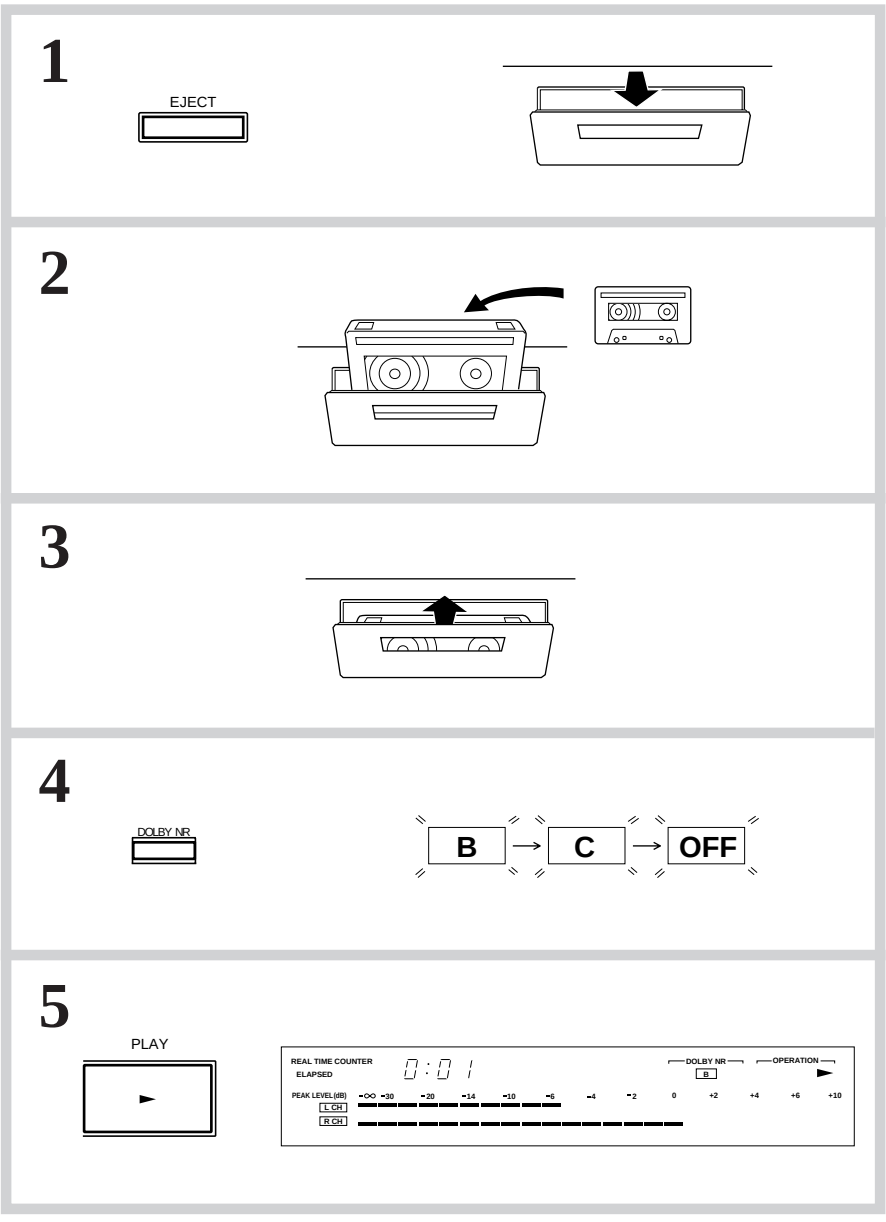
- Do not plug in the po[illegible] [illegible]ections have been m[illegible]
- On each pair of inpu[illegible] [illegible]ck (marked [illegible] [illegible] the right ch[illegible] the left channel. Als[illegible] [illegible]ction manual [illegible] [illegible]mation o[illegible]

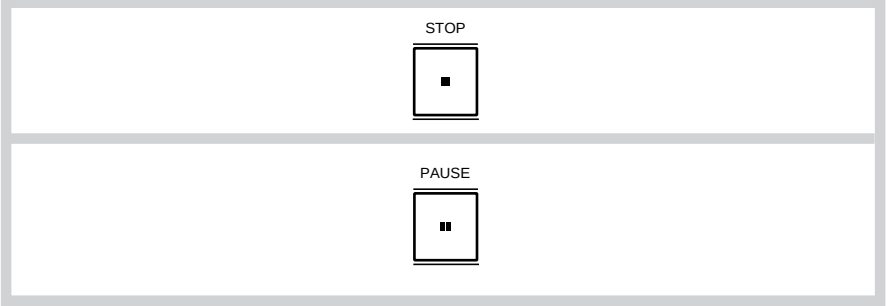


If the TA-67[illegible]1 is properly [illegible]ect to a[illegible] the other com[illegible]ponent's re[illegible]

Playing Tapes







Listening to a Tape

1. **Press the EJECT button to open the cassette holder.**
2. **Insert a cassette.**
   - The portion of the cassette where the tape is exposed sholud be facing downward and the side you wish to play facing outward.
3. **Close the cassette holder.**
4. **Select the appropriate Dolby NR mode using the Dolby NR button.**
   Each press of the Dolby NR button advances the Dolby NR mode setting one step through the following sequence: B, C, OFF, B, etc.
   Select the B setting if the cassette to be played was recorded using Dolby B NR. Use the C setting if the cassette was recorded using Dolby C NR. Tapes recorded without Dolby NR must be played back using the OFF setting.
5. **Press the ► PLAY button to begin playback.**
   The Peak Level indicators will light during playback showing the strength of the recorded signal.
   The auto-stop mechanism will automatically stop tape transport if a tape is played through to the end.
   - The TAPE MONITOR indicator lights when power is initially turned on. If the ► PLAY button is pressed while the TAPE MONITOR indicator is not lit, the indicator lights automatically.

Automatic Tape Selection System

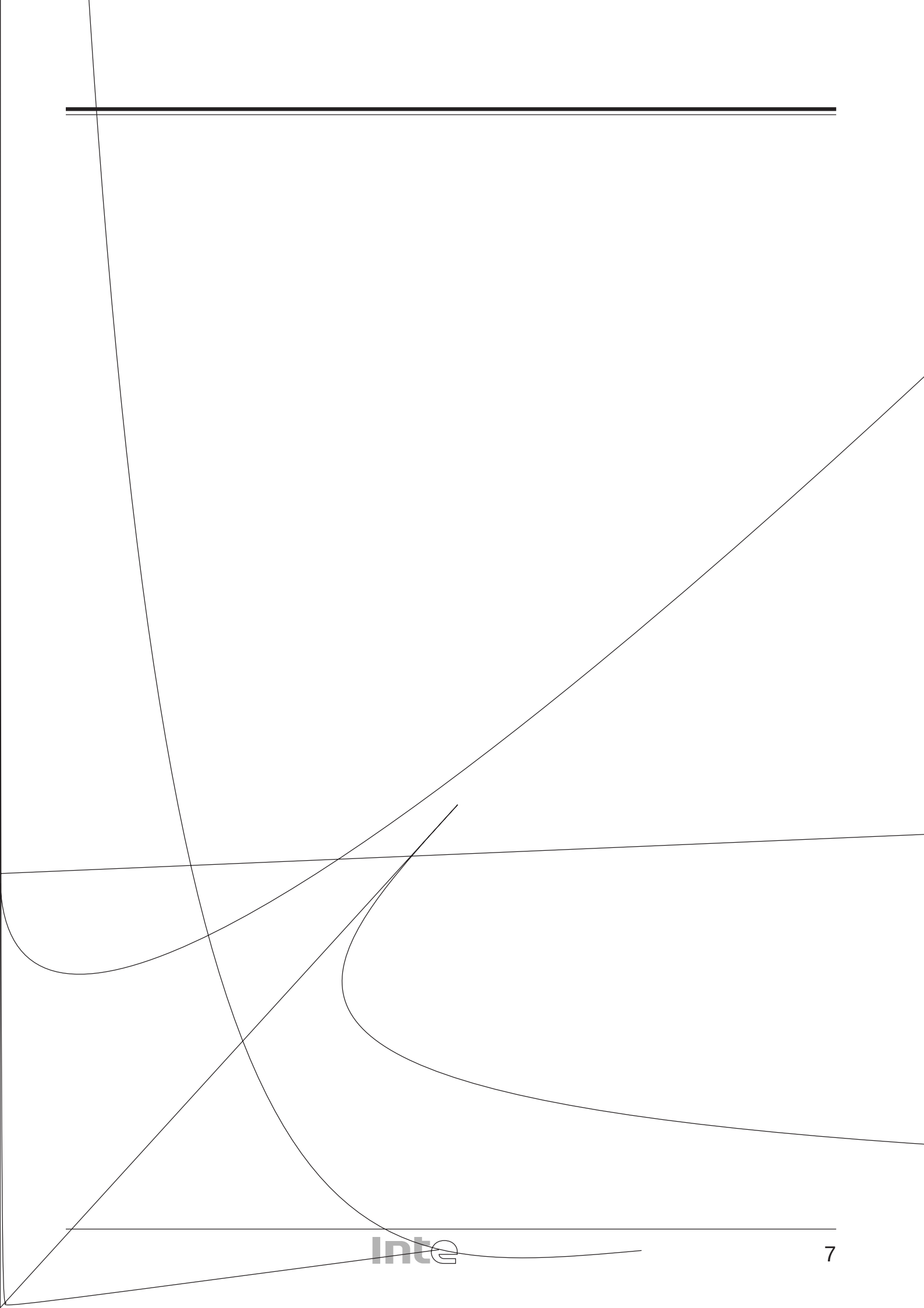
This deck automatically detects the type of cassette in the cassette holder and sets the bias and equalization to the correct settings. Tape selection is performed by detecting the presence or absence of identification pits on the back of the cassette shell. Cassettes manufactured before this identification system was adopted and bargain cassettes that do not incorporate these pits cannot be used with this deck.

Stopping Playback

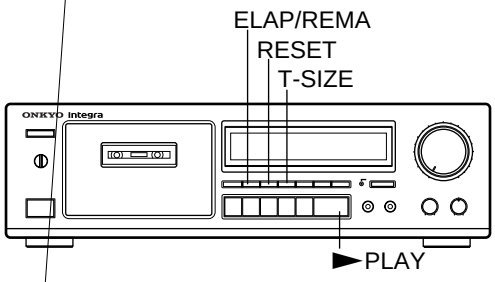
Press the ■ STOP button.

Stopping playback temporarily

Press the ❚❚ PAUSE button.
- To resume paly, press the ► PLAY button.



Real Time Counter



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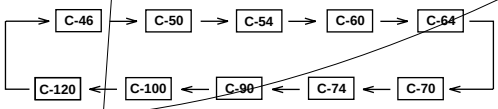
2

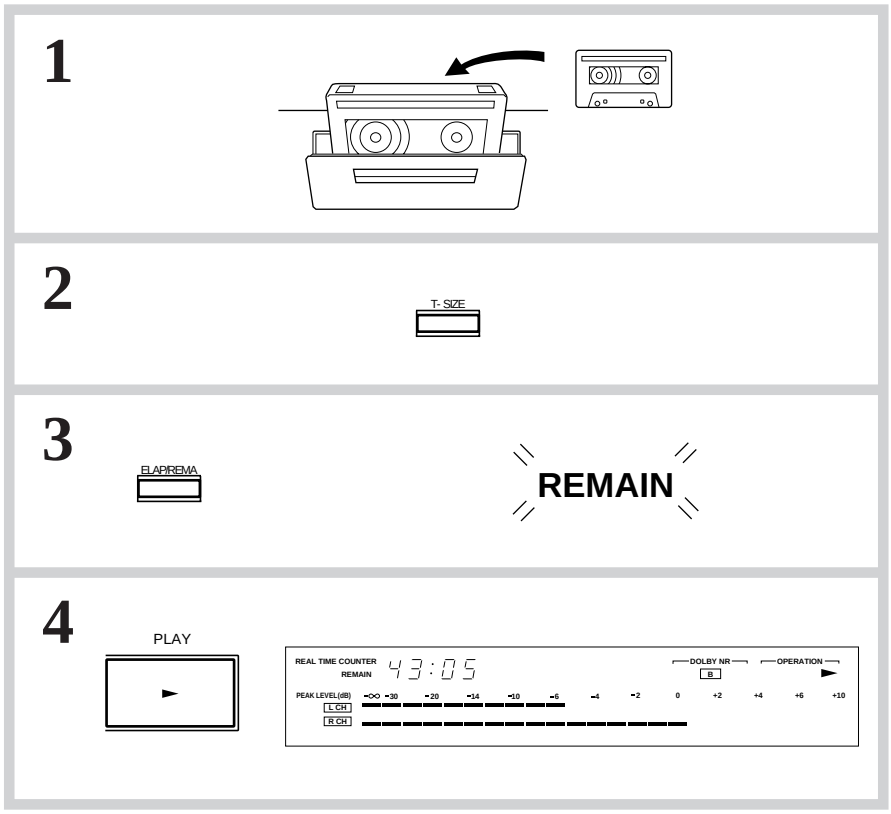


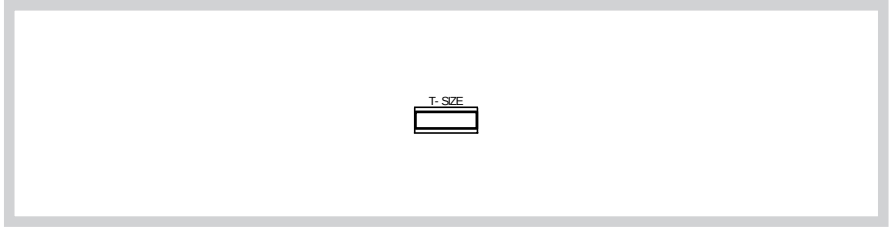
3

Determining the Elapsed Tape Running Time (ELAPSED)

The counter reads [0:00] "ELAPSED" when the power is first turned on.

1. **Insert a cassette.**
2. **Press the T-SIZE button to set the size of the cassette to be used.**
   Each press of the T-SIZE button advances the Tape Size indicator in order from C46 to C50, C54, C60, C64, C70, C74, C90, C100, C120 and then back to C46.
3. **Press the ELAP/REMA button to switch the Real Time Counter to the "ELAPSED" (elapsed) time mode.**
4. **To return the counter to [0:00], press the RESET button.**
5. **Begin tape transport in the record or play mode.**
   The counter will begin counting the elapsed time. (If you turn the cassette over without resetting the counter, the total time including the first side will be displayed.)
   The two digits on the left display minutes and the two digits on the right display seconds.





Determining the Remaining Tape Running Time (REMAIN)

The Real Time Counter can also be used to show the amount of time remaining on a cassette as it is being recorded or played back.

1. **Insert a cassette.**
2. **Set the proper length using the T-SIZE button.**
3. **Press the ELAP/REMA button to switch the Real Time Counter to the "REMAIN'' (remaining) time mode.**
4. **Begin playback or recording.**
   The Real Time Counter will display the tape size flashing for a few seconds, then the time remaining on the cassette (based on the tape size setting) will be displayed.
   - After the remaining time has counted down the 0:00, the indication “ ” flashes on and off on the display.
   - Press the counter mode button while the tape size is being displayed to return to the counter display.

To choose the Tape Size Setting after Playback or Recording has Started

Press the T-SIZE button once.
If you accidentally set the wrong tape length, press the T- SIZE button again to set the correct length (without stopping playback or recording) to obtain the correct remaining time reading.
The remaining time is automatically recalculated when the remaining time counter reaches [6:00]. The display changes briefly to the tape's length [e.g.: C-60], then the new (more accurate) remaining time is displayed.

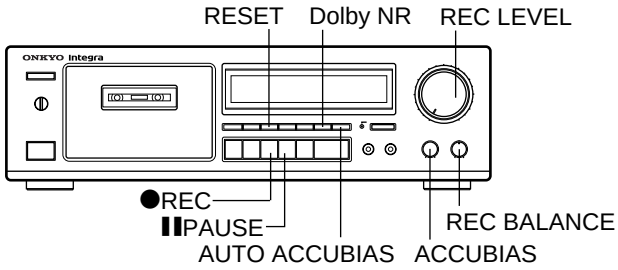
To Obtain the Most Accurate Time Indications Possible

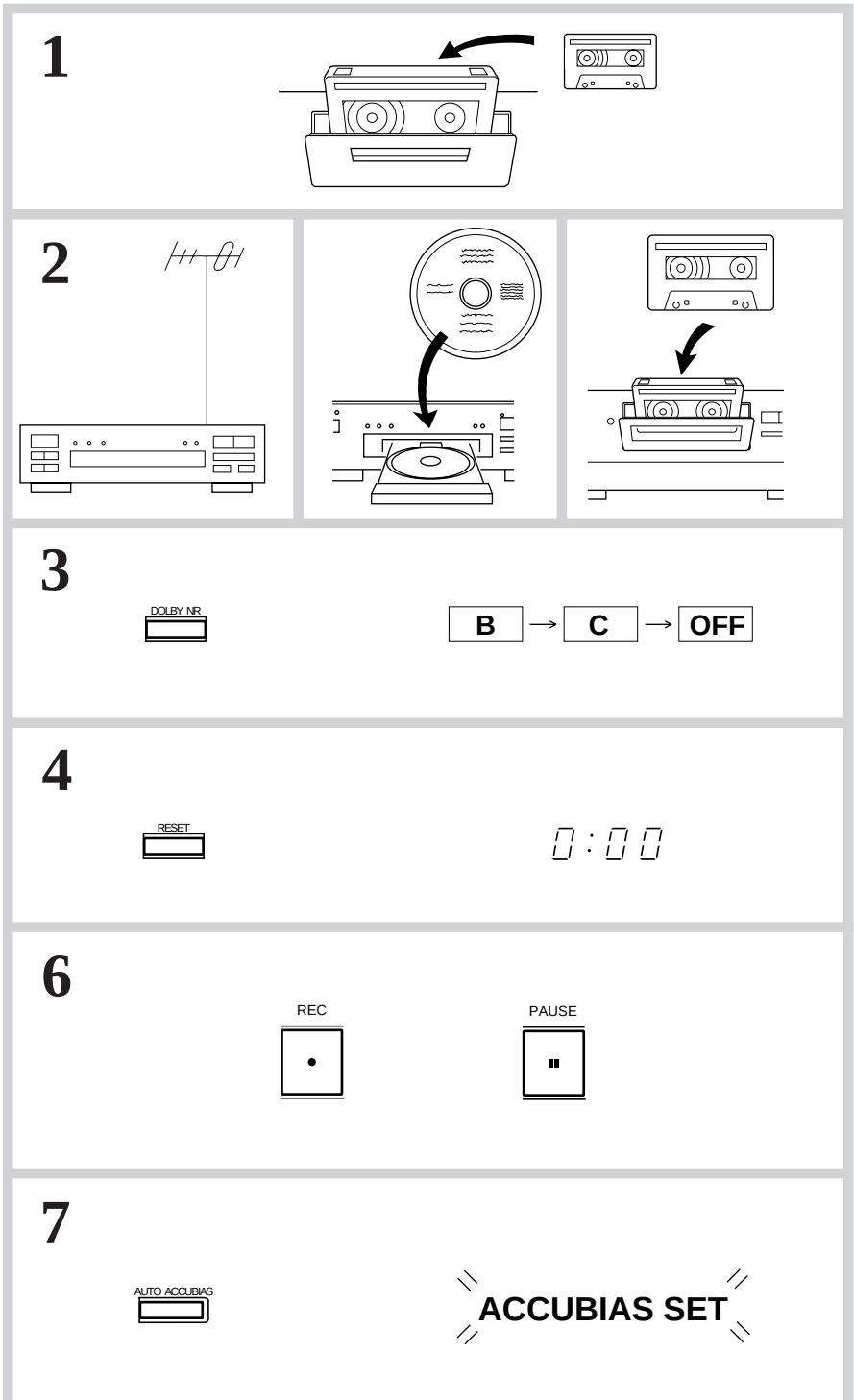
Press the T-SIZE button when the current side is almost finished playing. The deck will recalculate the remaining time and a more accurate indication will appear.

Recording

If recording does not begin even when the steps listed below are followed:

- Check to see if one or both of the cassette's erasure prevention tabs have been broken off.
- Confirm that the cassette deck is properly connected to the amplifier and other components in the system.





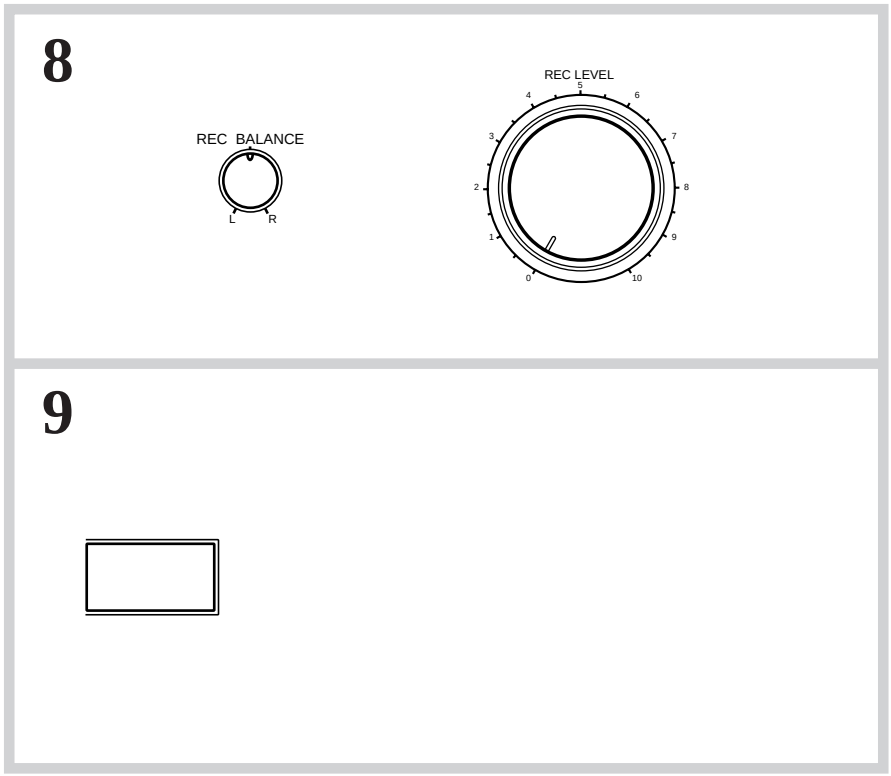
Recording

Confirm that the amplifier is set up correctly for recording. (Refer to the amplifier's instruction manual for details.)

1. **Insert a cassette.**
   Make sure the side to be recorded is facing outward.
2. **Prepare the source component to be used for the recording.**
   - Tune in the desired station on the tuner.
   - Load a CD (or LP) into the CD player (or turntable).
   - Load a cassette into the tape player (analog or DAT).
3. **Select the desired Dolby NR setting.**
   Select the DOLBY B NR, DOLBY C NR or OFF setting. (Refer to page 12 for details.)
4. **Press the RESET button to return the Real Time Counter to [0:00].**
   - If desired, the MPX FILTER button may be used when recording FM broadcasts. (Refer to page 12 for details.)
5. **Initiate play on the source component.**
6. **Press the ❚❚ PAUSE button while holding the ● REC button down. The Tape Monitor indicator goes out.**
   If the ❚❚ PAUSE button is pressed first, the unit switches to the pause mode instead of the rec/pause mode. Note that when this happens the input selector of an Onkyo amplifier (or receiver) connected to the unit will switch automatically to the TAPE position.

7 **Press the AUTO ACCUBIAS button.**

- The ACCUBIAS SET indicator will flash to indicate that the Auto Accubias setting has started. During this period, the unit carries out necessary operations to determine the optimal recording bias and level. When these operations are completed the ACCUBIAS SET indicator stays lit. For details, refer to "Using the Auto Accubias System" on page 11.
- To clear the Auto Accubias setting, press the AUTO ACCUBIAS button again or eject the tape.
- The recording bias can be adjusted manually as desired. See "Manually Adjusting the Recording Bias" on page 11.



8. **While observing the peak level indicators, adjust the recording level and balance as appropriate.**
   - Adjust the REC BALANCE knob so that the level of the left and right channels is approximately the same.
   - Use the REC LEVEL knob to adjust the recording level.
   - With metal tape formulations, the rec level control knobs should be adjusted so that the +2dB indicators light up from time to time. With all other kinds of tapes, the 0dB indicator should only light up from time to time.
9. **Put the source component into recording standby status.**
   - Temporarily stop CD (or LP) play.
   - Rewind the tape to a position immediately preceding the portion you wish to play.
10. **Initiate play on the source component and press the ► PLAY button on the tape deck at the same time.**

You can also use the CD Synchro Recording function if the tape deck is properly connected to an Onkyo CD player bearing the RI mark.

Using the Auto Accubias System

Auto Accubias is a system that allows you to automatically set the optimal recording bias and level for the tape being used.
To activate this system, simply press the AUTO ACCUBIAS button when the unit is in the recording-standby mode. While the system is calculating the optimal settings (the ACCUBIAS SET indicator flashes), the tape is automatically fast forwarded and rewound, a test signal is recorded on it and then played back. In the display, the flashing bias indicators move to the right and left, and stop at the 0 position. When the optimal bias and level settings have been set, the ACCUBIAS SET indicator stays lit and the tape is rewound to the position where the setting was started.

Note:

Do not initiate the Auto Accubias function when the tape is near the end of the side.

Manually Adjusting the Recording Bias

Although the Auto Accubias system may be used to set the recording bias and level as explained above, you can adjust the recording bias independently for the right and left channels when the unit is in recording-standby mode or simultaneously during recording.

Note:

The manually-set recording bias setting will be lost once the AUTO ACCUBIAS button is pressed.

To adjust the recording bias independently for the right and left channels

1. While holding down the REC button, press the PAUSE button.
2. Press ACCUBIAS knob.
   The display mode changes to allow you to adjust the recording bias in the range of -7 to +7. The L CH indicator flashes to indicate that you are adjusting for the left channel.
3. Turn the ACCUBIAS knob and press it when the flashing bias indicator (initially placed at the previously set position) has reached the desired level.
   The L CH indicator now stays lit to indicate that the recording bias for the left channel is now set. The R CH indicator flashes.
4. In the same way, set the recording bias for the right channel.
   The normal peak level display will be restored.

Note:

To clear the recording bias setting, eject the tape.

To adjust the recording bias while recording

1. Press the ACCUBIAS knob while recording.
   The display mode changes to allow you to adjust the recording bias in the range of -7 to +7. The L CH and R CH indicators now flash alternately.
2. Turn the ACCUBIAS knob and release it when the flashing right and left bias indicators (initially placed at the previously set position) have reached the desired level.

The normal peak level display mode will be restored approximately four seconds after you release the knob.

Making Good Sounding Recordings

Dolby Noise Reduction Systems

Dolby B NR is the system used in most cassette tape decks to reduce the background noise that is inherent in all cassette tapes. Dolby Laboratories then developed an even more effective noise reduction system, Dolby C NR, in response to the demand for increasingly better sound quality from cassette tapes.

Both Dolby noise reduction systems operate by boosting signals during recording that fall below a certain input level. Dolby B and C NR operate on the higher portions of the frequency spectrum using what is called a "sliding band" technique. This is because tape hiss is most prominent during the quiet, high frequency portions of a recording. These same signals are then reduced back to their original strength during playback, thereby reducing the background noise by the same amount. In order to operate only when necessary, the Dolby NR system has a varying effect depending on the input level and frequency of the material being recorded.

Dolby C NR is capable of reducing tape hiss by 10dB more than Dolby B NR. In addition to its noise reduction function, Dolby C NR has an anti-saturation network that lowers high input levels before recording them and returns the signals to their original strength during playback. This raises the high-frequency saturation level of cassette tapes to allow you to record signals that would normally cause distortion. This system raises the maximum output level of cassette tapes by more than 4dB at 10kHz.

The Dolby HX Pro System

Tape sensitivity is constantly changing as recordings are made due to the biasing effect of high frequency audio signals. Dolby HX Pro is a system that compensates for these undesirable fluctuations during recording. It does not operate during playback, so cassettes recorded with Dolby HX Pro can be played back on decks not equipped with the system.

Note:

Dolby HX Pro operates independently of Dolby B and C NR, and only during recording.

Setting the Proper Recording Level

The recording level has an important effect on the sound quality a tape will have when it is played back. A recording level that is too high will cause distortion while one that is too low will lower the signal-to-noise ratio resulting in a tape with excessive "hiss noise." It is particularly important to set the recording level correctly with cassette tapes since they have a much thinner magnetic coating than open reel tapes. The thin coating gives the tape a comparatively low saturation level which can easily be surpassed if the recording level is set too high.

The optimal recording level varies depending on the type of the tape being used. With this tapedeck, adjust the REC LEVEL knob so the PEAK LEVEL indicator occasionally hits the “+6dB” line with “Metal” tapes and “+4dB” line with “Normal” or “High” position tapes, respectively. It should be noted that the peak level may change from one track to another on some recording sources.

The recording level indicators feature a peak-hold function for the indicators from -10 dB through +10 dB. This can come in handy when setting the recording level.

CD Synchro Recording System

Once the TA-6711 is connected to a CD player bearing the **RI** mark (see page 5.), pressing the ► button of the CD player will cause recording to commence automatically on the TA-6711.

1. Insert a cassette with the side to be recorded facing out.
2. Start the CD player.
3. Press the ❚❚ PAUSE button while holding down the ● REC button to put the unit into the recording standby mode. Adjust the input level. When the recording level has been set, stop the CD player.
4. Start the CD player again, and recording will begin simultaneously.

Notes:

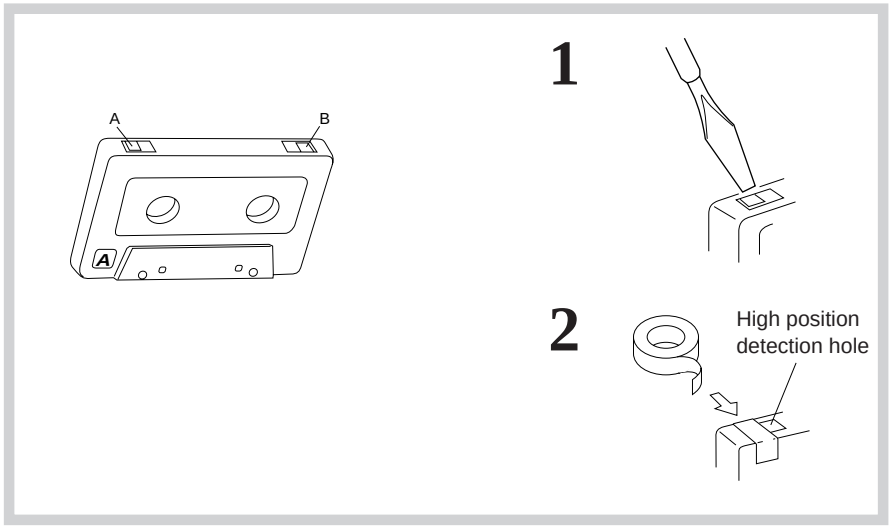
1. Even if the CD player is stopped during recording, the cassette deck will continue in the record mode.
2. If the cassette deck is in the recording standby mode when CD play starts, the deck will begin recording. When setting recording levels, always start the CD first.

MPX Filter for Recording FM Broadcasts

When recording FM broadcasts using Dolby NR, the 19kHz pilot signal and the 38kHz subcarrier signal included in the FM broadcast signal can cause the Dolby circuitry to malfunction. This deck is equipped with an MPX FILTER button to prevent this from occurring. Press the MPX FILTER button to turn on the MPX filter. The [MPX FILTER] indicator lights. The MPX FILTER button should be ON when recording FM broadcasts using Dolby NR and OFF at all other times.

Handling Cassette Tapes

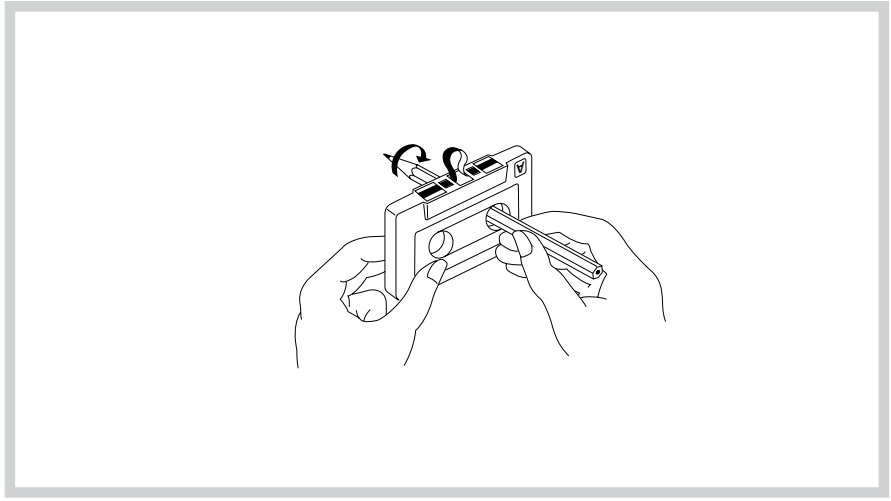
Examine cassette tapes carefully before using them with the TA-6711.



Erasure Prevention

Cassette tapes are constructed with erasure prevention niches on the back edge that are initially covered by break-off tabs.

1. If you wish to protect a recording from accidental erasure, break off the tab(s) of the appropriate side(s). It will no longer be possible to use the recording button with such a cassette.
2. If at some later date you wish to re-record the cassette, simply cover the openings with small pieces of cellophane tape.

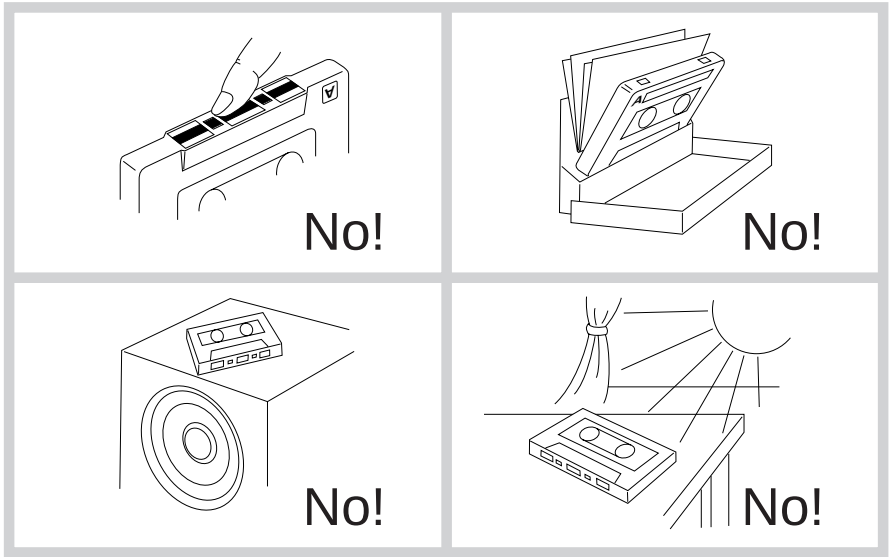


Tape Slack

Slack in the tape (tape not stretched tightly) can cause tangling around the pinch roller and capstan and jam the mechanism. Remove any tape slack with a pencil or similar device as shown in the diagram.

Tapes which are Not Recommended

1. C120 tapes
   C120 tape is thin and therefore easily broken. There is a possibility that tape could get caught up by the pinch roller or capstan.
2. Endless tapes
   Do not use endless tapes.



Tape Storage

- Do not touch the tape surface.
- Do not put thick paper or cardboard labels in the cassette holder.
- Do not put tapes near magnetic sources (speakers, amplifiers, TVs, etc.). Your important recording might be erased or damaged.
- Do not expose cassettes to direct sunlight.

Troubleshooting Guide

The following guide lists problems which do not require professional servicing. If, however, the problem cannot be remedied using this guide, contact an Onkyo authorized service center for assistance.

• No power.
Cause: Power cord plug is loose
Remedy: Insert plug properly into outlet.

• Playback but no sound.
Cause: Hookup incorrect.
Remedy: Check and hook up correctly according to page 5.
Cause: Stereo amplifier input selector switch is set to wrong position.
Remedy: Change switch position.

• Tape does not move.
Cause: Slack tape wound around pinch roller.
Remedy: Take up slack with a pencil (see page 14).

• REC button does not engage.
Cause: No tape in cassette holder.
Remedy: Load cassette tape.
Cause: Erasure prevention tab(s) removed.
Remedy: Change cassette or cover tab hole with cello-phane tape.

• Hoarse sound, balance unstable.
Cause: Playback head dirty.
Remedy: Clean head (see page 16).
Cause: Tape is stretched.
Remedy: Replace cassette.

• Excessive noise and tape hiss.
Cause: Head has become magnetized.
Remedy: Demagnetize (see page 16).
Cause: Tape with high noise level.
Remedy: Replace cassette.

• Distorted sound.
Cause: Distortion in tape.
Remedy: Tape is probably bad but confirm by listening to another.

• Recordings are distorted.
Cause: Recording was done at too high a level.
Remedy: Readjust REC LEVEL knob according to the directions on page 11.

• Tape squeal and skipping.
Cause: Dirty heads, pinch rollers or capstan shafts.
Remedy: Clean (see page 16).
Cause: Cassette shell is binding tape or tape is stretched.
Remedy: Change cassette or try correcting with fast forward and rewind.

• Excessive hum during playback.
Cause: Connecting cables not inserted firmly.
Remedy: Insert plugs firmly.
Cause: External flux leakage from nearby amplifier or TV set.
Remedy: Move deck away from hum source.

• High frequencies too strong.
Cause: Dolby NR encoded tape played back with NR off.
Remedy: Select the appropriate NR mode using the DOLBY NR button. (Dolby B or C) for the tape being played back.
Cause: Incorrect equalization.
Remedy: Confirm that cassette has tape type detection holes.

• No high frequency sounds.
Cause: Tape not encoded with Dolby NR played back with Dolby B or C NR on.
Remedy: Select the appropriate NR mode using the DOLBY NR button (OFF).
Cause: Heads have become dirty.
Remedy: Clean (see page 16).

• The skip function does not operate properly.
Cause: The silent sections between selections are too short or noisy.
Remedy: Use a cassette with sufficiently silent sections of sufficient length between selections.

• Deck does not operate properly.
Cause: Tape transport control microcomputer has been exposed to interference from power supply or static electricity.
Remedy: Switch power off for about ten seconds.

Cassette Deck Maintenance

This deck requires no lubrication.

Head, Pinch Roller and Capstan Cleaning

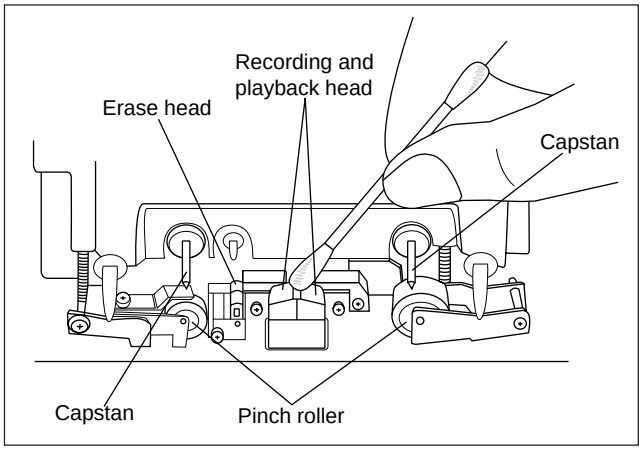
Playback sound quality can be greatly diminished if magnetic particles are allowed to accumulate on the recording or playback heads. Be sure to clean the heads periodically, normally 2 or 3 times a month, to maintain your deck's original performance.
Dirty heads will cause:

- Poor sound quality (loss of high frequency response)
- Decreased volume
- Skipping
- Incomplete erasure of previous recordings

If the pinch rollers and capstan are dirty, the tape may become tangled and damaged by wrapping around the pinch roller and capstan.
To prevent these problems, clean the heads, pinch rollers and capstans with a cotton swab dipped in cleaning fluid.

Demagnetizing

Residual magnetism builds up in the heads after the cassette deck has been used for an extended period of time. This buildup introduces noise and static into tapes and impairs high frequency response. To prevent this, demagnetize the heads and the other metal parts in the area (like the capstan shafts) once every 50 hours of use. Keep the deck power off while using the demagnetizer. Also place tapes far away from the work area.



Specifications

Track Format:	4-tracks, 2-channels
Erasing System:	AC erase
Tape Speed:	4.8 cm/sec. (1-7/8 i.p.s.)
Wow and Flutter:	0.045% (WRMS) 0.09% (DIN)
Frequency Response:	20—18,000Hz (normal) (30—17,000Hz ±3dB) 20—19,000Hz (high) (30—18,000Hz ±3dB) 20—20,000Hz (metal) (30—19,000Hz ±3dB)
S/N Ratio:	60dB (metal tape, Dolby NR off) A noise reduction of 10dB above 5kHz and 5dB at 1kHz is possible with Dolby B NR. A noise reduction of 20dB at 5kHz is possible with Dolby C NR.
Input Jacks:	LINE IN: 2 Input sensitivity: 80 mV Input impedance: 40 kohms MIC IN: 2 Input sensitivity: 5 mV Input impedance: 50 kohms
Output Jacks:	LINE OUT: 2 Standard output level: 500 mV (0dB) Optimum load impedance: over 50 kohms
Motors:	DC servo motor: 1 DC motor: 2
Heads:	REC/PB: Special Hard Permalloy x 1 Erase head: Sendust x 1
Power Supply Rating:	U.S.A and Canadian models: AC 120 V 60 Hz European models: AC 230 V, 50Hz Worldwide models: AC 120 and 220-230 V, Switchable 50/60 Hz
Power Consumption:	16 watts
Dimensions:	435(W) x 131(H) x 370(D)mm 17-1/18" x 5-3/16" x 14-9/16"
Weight:	7.2 kg. (15.9 lbs.)

Specifications and external appearance are subject to change without notice because of product improvements.

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SN29342245

Printed in Japan